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Proposed Maximum Residue Limit PMRL2010-76

Deltamethrin

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Under the authority of the *Pest Control Products Act*, Health Canada's Pest Management Regulatory Agency (PMRA) has granted full registration to the new end-use product Concept Liquid Insecticide, containing technical grade deltamethrin and imidacloprid, for use in Canada on various fruit, legume and vegetable commodities. The specific uses approved in Canada are detailed on the label of Concept Liquid Insecticide, *Pest Control Products Act* Registration Number 29611.

The evaluation of this application indicated that the end-use product has merit and value and the human health and environmental risks associated with the new uses are acceptable. Details regarding the registration can be found in the corresponding Evaluation Report that is available in the Pesticides and Pest Management section of Health Canada's website, under Public Registry, Pesticide Product Information Database.[1]

Before registering a pesticide for food use in Canada, the PMRA must determine the quantity of residues that are likely to remain in or on the food when the pesticide is used according to label directions and that such residues will not be a concern to human health. This quantity is then legally established as a maximum residue limit (MRL). An MRL applies to the identified raw agricultural food commodity as well as to any processed food product that contains it, except where separate MRLs are specified for the raw agricultural commodity and a processed product made from it.

In addition, the PMRA is consulting on proposed MRLs for deltamethrin on oilseed commodities previously registered in Canada, for which MRL consultation has not yet been conducted. These MRLs are included in Table 1 below and are supported by the summary field trial residue data found in Appendix II of this PMRL.

Consultation on the proposed MRLs for deltamethrin is being conducted via this document (see Next Steps, the last section of this document). The MRLs recommended for imidacloprid are being consulted on via PMRL2010-76.

To comply with Canada's international trade obligations, consultation on the proposed MRLs is also being conducted internationally by notifying the World Trade Organization, as coordinated by the Standards Council of Canada.

The proposed MRLs for deltamethrin in Canada in or on food are as follows.

[1] The relevant report can be accessed by selecting the Applications/New/Historical tab and opening the Evaluation Report found under Application Number 2007-5011.

Table 1 Proposed Maximum Residue Limits for Deltamethrin

Common Name	Residue Definition	MRL (ppm)	Food Commodity
Deltamethrin	Cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (*S*)-cyano(3-phenoxyphenyl)methyl ester, (1*R*,3*R*)-, including the isomers	3.5	Head and stem Brassica (Crop Subgroup 5A)
		0.3	Fruiting vegetables (Crop Group 8-09)
	trans-deltamethrin; Cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (*S*)-cyano(3-phenoxyphenyl)methyl ester, (1*R*,3*S*)-	0.2	Rapeseeds (Crop Subgroup 20A)
		0.1	Dry soybeans
		0.05	Milk (calculated on the fat content), fat of cattle, goats, hogs, horses, poultry and sheep
	and		
	α*R*-deltamethrin; Cyclopropanecarboxylic acid, 3-(2,2-dibromoethenyl)-2,2-dimethyl-, (*R*)-cyano(3-phenoxyphenyl)methyl ester, (1*R*,3*R*)-	0.04	Potatoes
		0.02	Eggs; meat and meat byproducts of cattle, goats, hogs, horses, poultry and sheep

MRLs are proposed for each commodity included in the listed crop groupings in accordance with Appendix I.

A complete list of all pesticide MRLs established in Canada can be found on the Maximum Residue Limits for Pesticides webpage in the Pesticides and Pest Management section of Health Canada's website.

International Situation and Trade Implications

MRLs may vary from one country to another for a number of reasons, including differences in pesticide use patterns and the locations of the field crop trials used to generate residue chemistry data. For livestock commodities, differences in MRLs can also be due to different livestock feed items and practices. Table 2 compares the MRLs proposed for deltamethrin in Canada with the corresponding American tolerances and Codex Alimentarius MRLs[2]. American tolerances are listed in the Electronic Code of Federal Regulations, 40 CFR Part 180, by pesticide. A listing of established Codex MRLs is available on the Codex Alimentarius Pesticide Residues in Food website.

[2] The Codex Alimentarius Commission is an international organization under the auspices of the United Nations that develops international food standards, including MRLs.

Table 2 Comparison of Canadian MRLs, American Tolerances and Codex MRLs

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Head and stem Brassica (Crop Subgroup 5A)	3.5	No tolerance established	0.1 (Flowerhead brassicas)
Fruiting vegetables (Crop Group 8-09)	0.3	0.3	0.2 (Fruiting vegetables) 0.3 (Tomatoes)
Rapeseeds (Crop Subgroup 20A)	0.2	0.2 (Rapeseed only)	No MRL established
Dry soybeans	0.1	0.1	0.2 (Legume vegetables)
Potatoes	0.04	0.04 (Vegetable, tuberous and corm, Subgroup 1C)	0.01
Milk (calculated on the fat content)	0.05	0.1 (Milk, fat (reflecting 0.02 ppm in whole milk))	0.05 (Milks)
Fat of cattle, goats, hogs, horses, poultry and sheep	0.05	0.05	No MRL established
Meat of cattle, goats, horses and sheep	0.02	0.02	0.5 (based on fat content)
Meat of hogs	0.02	No tolerance established	0.5 (based on fat content)
Meat of poultry	0.02	0.02	0.1 (based on fat content)
Meat byproducts of cattle, goats and sheep	0.02	0.05	0.03 (Kidney and liver)
Meat byproducts of hogs	0.02	No tolerance established	0.03 (Kidney and liver)

Food Commodity	Canadian MRL (ppm)	American Tolerance (ppm)	Codex MRL (ppm)
Meat byproducts of horses	0.02	0.05	No MRL established
Meat byproducts of poultry	0.02	0.02	0.02 (Edible offal)
Eggs	0.02	0.02	0.02

Next Steps

The PMRA invites the public to submit written comments on the proposed MRLs for deltamethrin up to 75 days from the date of publication of this document. Please forward your comments to Publications (see the contact information on the cover page of this document). The PMRA will consider all comments received before making a final decision on the proposed MRLs for deltamethrin and posting a corresponding Established Maximum Residue Limit document in the Pesticides and Pest Management section of Health Canada's website.

Appendix I

Crop Groups: Numbers and Definitions

Crop Group Number and Name		Crop Subgroup Number and Name		Food Commodities Included in the Crop Group or Subgroup
5	Brassica leafy vegetables	5A	Head and stem Brassica	Broccoli Brussels sprouts Cabbages Cauliflower Chinese broccoli Chinese mustard cabbages Kohlrabi Napa Chinese cabbages
8-09	Fruiting vegetables			African eggplants Bell peppers Bush tomatoes Coconas Currant tomatoes Eggplants Garden huckleberries Goji berries Groundcherries Martynias Naranjillas Non-bell peppers Okras Pea eggplants Pepinos Pepper hybrids Roselles Scarlet eggplants Sunberries Tomatillos Tomatoes Tree tomatoes

Crop Group Number and Name		Crop Subgroup Number and Name		Food Commodities Included in the Crop Group or Subgroup
20	Oilseeds	20 A	Rapeseeds	Borage seeds Cuphea seeds Echium seeds Flaxseeds Gold of Pleasure seeds Hare's ear mustard seeds Milkweed seeds Mustard seeds (oilseed type) Oil radish seeds Poppy seeds Rapeseeds (canola) Sesame seeds Sweet rocket seeds

Appendix II

Table 1 Summary of Field Trial and Processing Data Used to Establish Maximum Residue Limits (MRLs) for Deltamethrin

Commodity	Application Method/ Total Application Rate (g a.i./ha)	PHI (days)	Residues (ppm)		Experimental Processing Factor	Currently Established MRL	Recommended MRL
			Min	Max			
Canola	Foliar applications/ ~10	7	<0.06	0.117	No concentration observed in canola processed fractions	None	0.2 ppm for all rapeseeds (Crop Subgroup 20A; see Appendix I)

Note:
a.i. = active ingredient
g = gram
ha = hectare
Max = Maximum
Min = Minimum
PHI = preharvest interval
ppm = parts per million